



## Department of Civil Engineering

Academic year 2018-2019

# निरवधार

(निर्माण)

*The best way to predict future is to build it...*

(Volume – II, Issue – II)



This issue contains:

- Student achievements
- Faculty Development Programme
- Toppers of May 2019 Exams
- Site visits and Survey Camp
- Expert lectures
- Project Based Learning
- International Conference on Advances in Civil Engineering 2019



*We build dreams..*

## **Editorial Team**

### **Faculty:**

Prof. Vishal Misal

Mr. Aditya Shastri

### **Students:**

Mr. Sachin Jain (TE)

Mr. Raj Joshi (TE)

## **Civil Engineering Student Association (CESA)**

### **Faculty Coordinators:**

Prof. Vishal Misal

### **President:**

Mr. Siddharth Dhanawade (TE)

### **Vice President:**

Mr. Chaitanya Barkade (SE)

Ms. Roshni Tiwari (SE)

### **Secretary:**

Mr. Nidhanshu Bhatt (TE)

### **Assistant Secretary:**

Mr. Rohan Parekh (SE)

Mr. Sahil Narkar (SE)

### **Treasurer:**

Mr. Raj Joshi (SE)

### **Ladies Representative:**

Ms. Diksha Shinde (SE)

## **Indian Green Building Council (IGBC)**

### **Faculty Coordinators:**

Prof. Mugdha Agarwadkar

### **Student Coordinators:**

Mr. Shubham Mane

## Patrons



**Shri Chiragbhai A. Shah**

**Hon. Chairman**



**Mrs. Pooja C. Shah**

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## Our Advisors



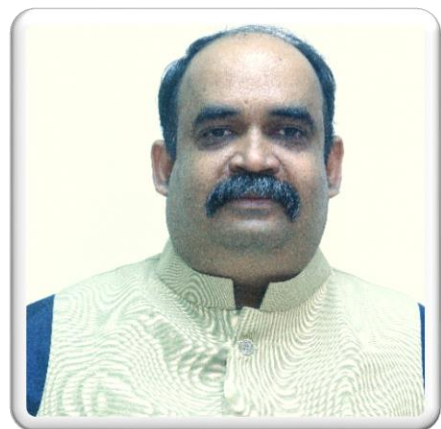
**Dr. Uttam D. Kolekar**

**Principal**



**Prof. Atul M. Deshpande**

**Dean Academics**



**Dr. Sameer S. Nanivadekar**

**Dean Administration**



## **About APSIT**

A. P. Shah Institute of Technology (APSIT) has started functioning with commitment of imparting state of art technical education so as to inculcate conceptual know-how, analysing skills, decision making abilities and leadership qualities in the students. APSIT stands committed to the intellectual and moral growth of every student.

APSIT has an experienced and proficient team which aspires to unlock the hidden potential in subconscious minds of students and to create competent Engineers with vision & social commitment.

## **Vision**

APSIT aspires to be a premier institute producing globally competent engineering professionals to contribute towards socio-economic growth of India.

## **Mission**

To provide conducive and collaborative environment to meet contemporary & future Engineering challenges by project based and value-added education with the support of trained faculty.

## From Principal's desk



Dear all,

Technical education in today's world occupies increasingly greater space and interest and hence is required to be nurtured. All aspiring engineers shall awaken to remain sensitive and keep themselves abreast of developments in technology with growing awareness. The commitment towards acquisition of knowledge with thorough understanding is necessary to assimilate the facts.

PCT's A. P. Shah Institute of Technology, Thane, is establishing itself as a benchmark in engineering education with spacious buildings, well equipped laboratories, good library with e-resources for scholarly studies, effective project based learning courses and more over a peaceful atmosphere to make learning a pleasure here. Faculty members are experienced, caring and devoted to teaching.

The aim of the Institute is to transform a young, enthusiastic student into a professionally competent engineer capable of accepting the challenges of the industry. The focus is on 'creative learning' based on the prescribed syllabus of the University of Mumbai, to which the college is affiliated. Ample opportunities are provided for interaction with the experts from the industry through guest lectures, field visits, vacation training, placement activities and sponsorships to technical paper presentation competitions etc.

Participation in sports, cultural and spiritual activities, environmental and social drives, is encouraged to develop a high level of emotional quotient and a team spirit in the students. We feel that such qualities and skills over and above the professional inputs are essential for a long prospective career in the rapidly changing global scenario. We at APSIT, Thane are thus committed to impart a value based universal education to develop 'winning personalities'.

We invite you to be a part of this dedicated and successful tradition.

With best wishes

**Dr. Uttam. D. Kolekar**

# About the Department of Civil Engineering

Welcome to the Department of Civil Engineering at APSIT. Department of Civil Engineering reflects importance and legacy of the discipline. The Civil Engineering is the basic branch of Engineering. The department was established in 2014 with an intake capacity of 60 which was raised to 120 since 2016. The state-of-the art facilities and advanced computational resources are available in the department for integrating education and research. Students are exposed to rigorous appraisals to create proficient and ethically strong technocrats.

The department has experienced and highly qualified faculty members to provide an excellent environment for academics and research. The laboratories are equipped with modern equipment which enable students to learn the applications of the fundamentals to solve civil engineering problems. The department offers Project Based Learning (PBL) and Value Added Programmes (VAP) to make the students employable. The computational laboratory is fully ready with more than 50 licensed software of every domain under the umbrella of civil engineering. This facility serves the budding engineers to fulfill the current soft-skill requirements of the industry and higher education. Indian Green Building Council (IGBC) student chapter launched in the department guides the students towards environment and sustainability through civil engineering activities.

The department also focuses on 360<sup>0</sup> development of students along with their academics. Small groups of students are allotted a faculty mentor, who looks after problems faced, challenges if any and the overall development of the students throughout academic period. Various in-house activities are organized for the students like communication skill development, EQ enhancement sessions, counselling, sports and cultural activities. For this purpose the students have dedicated spaces for in-door and out-door sports, music, dance, debating etc. The department has Civil Engineering Students' Association (CESA), which is handled by the students and for the students. The department enhances technical skills and improves the overall personality of students to enable them in facing future challenges.

## Vision

“Civil Engineering department strives to produce globally adaptive professionals to ensure sustainable growth of society”

## Mission

1. To develop state-of-the-art facilities and advanced computational resources to integrate education and research.
2. To create proficient and ethically strong technocrats by exposing them to rigorous appraisals to make them realise, define and select their key competencies
3. To bridge the academic and industrial gap by imparting training through sound and conceptual foundation and ample field exposure

## From the HOD's desk



The key objective of the Department is to transform a young, enthusiastic student into a professionally competent Civil engineer capable of accepting the challenges of the industry. The focus is on 'creative learning' with video lectures and practical explanations. Opportunities are provided for interaction with the experts from the industry through guest lectures, field visits, vacation training, placement activities and sponsorships to technical paper presentation competitions etc. Vacation Training is focused by building MOU's with different industries and institutions.

Department of Civil Engineering contributes by providing well equipped laboratories; effective project based learning (PBL) courses, Collaboration with software bodies like Bentley and more over a peaceful atmosphere to make learning a pleasure here. To bridge any possible gap in the above stated objective we have formed a student council 'CESA- Civil Engineering Students Association' which is lead by a team of representatives from the existing students. We encourage students to participate in technical events arranged in institute and outside.

Participation of our students in sports, cultural, environmental and social drives is encouraged to develop a high level of emotional quotient and a team spirit. We feel that such qualities and skills over and above the professional inputs are essential for a long prospective career in the rapidly changing global scenario.

It gives me immense pleasure to lead this passionate faculty and dedicated student's team. We, Civil Engineering Department are thus committed to impart a value based universal education to develop competent Civil Engineers for the society.

With best wishes

**Prof. Upendra. W. Mate**

# Faculty Training & Development

Sr No.	Name of the faculty	FDP/STTP/Training activities Attended	Venue and Date	Duration
1.	Prof. Upendra Mate	Advances in Disaster Management & Risk Reduction : A Remote Sensing & GIS Approach	Pillai HOC College of Engineering & Technology 24 <sup>th</sup> June 2019	6 Days
2.	Prof. Mrunal Joshi	Intellectual Property Rights	M.H.Saboo Siddik College of Engineering 19 <sup>th</sup> January 2019	1 Day
3.	Prof. Raksha Khandare	Finite Element Method	Veermata Jijabai Technological Institute 12 <sup>th</sup> July 2019	1 Day
		Analysis and Design Software - ETABS	Datta Meghe College of Engineering 30 <sup>th</sup> January 2019	1 Day
		Workshop on Technical Writing	Institute of Engineers (India) Belapur Local Centre 16 <sup>th</sup> March 2019	1 Day
4.	Prof. Mugdha Agarwadkar	Advances in Disaster Management & Risk Reduction : A Remote Sensing & GIS Approach	Pillai HOC College of Engineering & Technology 24 <sup>th</sup> June 2019	6 Days
5.	Prof. Vishal Misal	Modelling & Estimation using Revit & EBC	Datta Meghe College of Engineering 29 <sup>th</sup> January 2019	1 Day
		Advances in Disaster Management & Risk Reduction : A Remote Sensing & GIS Approach	Pillai HOC College of Engineering & Technology 24 <sup>th</sup> June 2019	6 Days
6.	Prof. Umesh Vazurkar	Modelling & Estimation using Revit & EBC	Datta Meghe College of Engineering 29 <sup>th</sup> January 2019	1 Day

- 2 Day FDP was conducted by the Department on 10<sup>th</sup> & 11<sup>th</sup> January 2019 on 'Modern Surveying Instruments' which was attended by the Faculties.
- 7 Days FDP on 'Student Induction' organised by AICTE at APSIT was attended by the Faculties.
- 2 Days FDP on 'Structural Analysis & Design using STAAD Pro' was organised by the Department on 12<sup>th</sup> & 13<sup>th</sup> April 2019 which was attended by the Faculties.



## Student Achievements



We're proud  
of you

*Congratulations*

### Toppers list

**Congratulations** to our students on their excellent exam results. We wish them to keep the same courage and confidence to face the challenges of life. May God bless them with success and abundant happiness.

### May 2019

Semester	Name of Student	CGPA
IV	Joshi Raj Abhay	9.07
	Chotaliya Nilesh Dhirajlal	8.48
	Jadhav Hritika Laxman	8.41
VI	Anchan Nidhi Loknath	9.54
	Mestry Piyush Prashant	9.52
	Mali Siddhesh Satish	9.12
VIII	Shinde Aishwarya Uday	9.71
	Vichare Aakash Milind	9.38
	Kale Amey Arun	9.33

### Sports Achievements

- 1) Mr. Umesh Sawant (BE) secured 13<sup>th</sup> rank in University Sports Inter-Collegiate Event of Rifle Shooting.
- 2) Mr. Rohit Lalwani (TE) & Mr. Saurabh Varun (BE) were part of Football team of APSIT who were runners up in 'ENIGMA Premier League 2019' at Ramrao Adik Institute of Technology
- 3) Ms. Riya Kanikudiyil , Ms. Anushka Gaikwad (FE) & Ms. Sayli Naik (BE) were part of Kabaddi team of APSIT who were runners up in Inter-collegiate Sports Competition at G. V. Acharya Institute of Engineering & Technology

### Technical Achievements

- 1) Mr. Raj Joshi (SE) was selected for The Academies' Summer Research Fellowship Programme (SRFP) and pursued the same for 8 weeks under the guidance of Prof. M. R. Ravi, Department of Mechanical Engineering, Indian Institute of Technology, Delhi. His project topic was 'Development of Numerical Model for Analysis of Biomass based Pottery Furnace.
- 2) Mr. Raj Joshi (SE) completed the following NPTEL(National Programme for Technology Enhanced Learning) Courses – MATLAB Programming for Numerical Computations (77/100) and Computational Fluid Dynamics (76/100) where he has been placed among top 5% candidates in the course.



3) Won 1<sup>st</sup> Runner Up Prize In TechnoQuiz, VIIT, Pune.

Sahil Narkar (SE)

Diksha Shinde (SE)

Bhushan Koli (SE)

Akanksha Babar (SE)

4) Won 1st prize in event Town Planning, MIT-WPU, Pune

Sahil Narkar (SE)

Vikrant Sawant (TE)

Omkar Pol (TE)

Mansi Kuthe (TE)



5) Won 1<sup>st</sup> Prize In event 'Line 'em out Survey', MIT-WPU, Pune.

Saurabh Yashwantrao (TE)

Harshil Udani (TE)

Aniket Upadhyay(TE)

Ketankumar Waghela (TE)



# Departmental Activities

## Site Visits

Site visits have their own importance in a career of a student who is pursuing a professional degree. It is considered as a part of college curriculum. The objective of an industrial visit is to provide an insight regarding internal working of companies. We understand that theoretical knowledge is not enough for a successful professional career. With an aim to go beyond academics, industrial visit provides students a practical perspective of the work place. It provides us with an opportunity to learn practically through interaction, working methods and employment practices. Hence, following are the highlights of Industrial visits and Survey camp conducted in the academic year.

### 1) Survey Camp, Owala Village.



**SE Semester IV Students performing Road Profiling**

As per the curriculum of University of Mumbai, 143 students of Second Year Civil Engineering having Surveying-II subject required to conduct Survey camp to perform their Project. A site visit was arranged near Shendoba Temple, Owala Village, Thane West, from 13th February 2019 to 15th February 2019 from 09:00 am to 5:00 pm.

### Project Details:

Project I: Road project using Auto level for a minimum length of 500 m including fixing of alignment, Profile levelling, cross-sectioning, at least one simple and one reverse curve, plotting of Longitudinal section and Cross Section.

Project II: Block Contouring project using Auto level for minimum  $100 \times 80$  m area and generating contours by MS Excel, etc. (minimum contour interval 0.2 meter)

Project III: Tachometric contouring project on hilly area with at least two instrument stations about 60 m to 100 m apart and generating contours using software such as Autodesk land desktop, Auto civil, Foresight etc. (minimum contour interval 1 meter)

Project IV: The account of practicals performed with aim, apparatus, observations, calculations, results and inferences.

- 13th Feb 2019: For this camp total 143 students have been participated. They have worked on 4 projects mentioned in their syllabus. All the students were divided as per their batches and each batch was performing separate project.
- 14th Feb 2019: On Second day, Principal Dr. U. D. Kolekar, Dean Academics Prof. A. M. Deshpande and Dr. Sameer Nanivadekar visited the site along with Head of Civil Engg department Prof U W Mate. All the projects were distributed among the batches made earlier day.
- 15th Feb 2019: On Third day, all the projects completed at 5.30 pm and records were maintained by each batch.



**Students performing Block Contouring**



**SE Semester IV students**

## 2) Industrial shed, Kalwa



**TE Semester VI Students**

### **About the visit:**

The objective of the site visit was to provide students with the practical knowledge of the various mechanisms involved in making of steel structure thereby leading to better understanding of the subject.

The professional worker in the site addressed students. They gave a brief explanation about the various machines used for various processes like detailed overview and working of machines like drilling machine, hand grinder, bar bending machine etc. was given. The workers also explained about the various components and safe handling of the machine with the working. They also gave a brief description of the various sizes and types of drilling bits and their uses, for example type of drill used for 25mm hole.

The students were taught various techniques of welding used for various orientation of jobs (structures), they were also given an onsite experience of welding, students under the supervision of the professional tried welding and drilling. A new instrument used for levelling of steel section was also introduced to the students, the instrument can show vertical, inclined and horizontal levels and accordingly adjustments to the section can be made. They were also explained the reason behind the selection of particular type of member (sections) used in structures present there.

The entire shed had a truss roofing of span 40 feet with only supported at the end, professors explained the reason behind the selection of hollow rectangular rolled section instead of conventional double angle and single angle in order to decrease the self-weight of the structure thereby increasing the moment of inertia in turn helping the structure to be more stable.

Thus, students were benefited by the site visit, they not only gained practical knowledge of the subject but also the gap between theoretical knowledge and site knowledge was bridged. Students also learned welding, drilling and various methods of bending the section in the site visit.



**TE Semester VI students learning to weld**



**Drilling Machine**

### 3) Sewage Treatment Plant, Airoli.

As per the curriculum of University of Mumbai, students of Third Year Civil Engineering having Environmental Engineering II subject are required to visit a site as a part of their Termwork. A site visit was arranged to Sewage Treatment Plant, sector 15, Airoli, Navi Mumbai.



**TE Semester VI Students**

#### **About the Plant:-**

The present sewage treatment plant is designed for 800000 inhabitants. The waste water is treated before it is let into the sea. This sewage treatment plant has been designed for Airoli Node in Navi Mumbai with latest C-Tech (Advanced cyclic Activated Sludge Technology) process for an average 80 MLD capacity.

In this site visit, students have got the knowledge regarding –

- How the treatment of waste water is done in actual practice?
- What are the various essential units of STP?
- Technical details of each unit with their working
- What are the various laboratory tests done on waste water?
- How safe disposal of waste water can be done?

Also they studied the difference between the characteristics of raw and treated waste water which help them to understand the effectiveness of treatment plant for the discharge of waste water in any river body or creek.

#### 4) RMC & Bitumen plant , Bitcon India Pvt. Ltd. , Gaimukh Thane



**SE Semester VI students**

##### **About the Plant:**

Site visit was arranged for students of second year at Ready Mix Concrete and Bitumen Plant of Bitcon India Pvt. Ltd. at Gaimukh, Thane for the subject 'Building Material and Construction Technology' on 4<sup>th</sup> April 2019.

Ready-mix concrete is concrete that is manufactured in a batch plant, according to a set engineered mix design. Ready-mix concrete is normally delivered in two ways. First is the barrel truck or in-transit mixers. This type of truck delivers concrete in a plastic state to the site. Second is the volumetric concrete mixer. This delivers the ready mix in a dry state and then mixes the concrete on site.

Batch plants combine a precise amount of gravel, sand, water and cement together by weight, allowing specialty concrete mixtures to be developed and implemented on construction sites. The first ready-mix factory was built in the 1930s, but the industry did not begin to expand significantly until the 1960s, and it has continued to grow since then.

Ready-mix concrete is often used over other materials due to the cost and wide range of uses in building, particularly in large projects like high rise buildings and bridges. It has a long life span when compared to other products of a similar use, like road ways. It has an average life span of 30 years under high traffic areas compared to the 10 to 12 year life of asphalt concrete with the same traffic.

Ready-mix concrete, or RMC as it's also known, refers to concrete that is specifically batched or manufactured for customers' construction projects, and supplied to the customer on site as a single product. It is a mixture of Portland or other cements, water and aggregates: sand, gravel, or crushed stone. All aggregates should be of a washed type material with limited amounts of fines or dirt and clay.



Ready-mixed concrete is used in construction projects where the construction site is not willing, or not able, to mix concrete on site. Using ready-mixed concrete means product is delivered finished, on demand, in the specific quantity required, to the specific mix design required. For a small to medium project, the cost and time of hiring mixing equipment, labour, plus purchase and storage for the ingredients of concrete, added to environmental concerns (cement dust is a particular airborne health hazard and nuisance) may simply be not worth it when compared to the linear cost model of ready-mixed concrete, where the customer pays for what they use, and lets someone else do the work up to that point. For a large project, outsourcing concrete production to ready-mixed concrete suppliers means delegating the quality control and testing, material logistics and supply chain issues, and mix design, to specialists who are already set up for those tasks, trading off against introducing another contracted external supplier who needs to make a profit, and losing the control and immediacy of on-site mixing.



### **Bitumen Plant**

A bitumen or asphalt plant is used for manufacturing of asphalt and other forms of concrete, sometimes collectively known as top or asphalt concrete. The manufacture of coated roadstone demands the combination of number of aggregates, sand and fillers in correct proportions heated and finally coated with a binder usually bitumen based.

All the working staff engineers explained the concrete mix plant, the mix details, the mixes regarding the asphalt and they also showed the working process of machines. From the visit students got information and practical knowledge about the things happening on actual site. They also learnt about technological advances and types of admixtures.

## 5) Mumbai Metro Rail Corporation, Site office, Azad Maidan, Mumbai.

This visit was performed by the Third Year students of Civil Engineering, of A.P. Shah Institute of Technology, Kasarvadavali, Thane on Saturday 23<sup>rd</sup> March 2019.



**TE Semester VI students**

### **About the Visit:**

On 23/03/2019 students of A.P Shah Institute of Technology visited the MMRCL (Mumbai Metro Rail Corporation Ltd.) site office at Azad Maidan. This site is under construction of Mumbai Metro Line 3 (Colaba-Bandra-Seepz), an underground metro project having 26 underground stations and one station at grade. The site has two tunnels which are being bored using TBM (Tunnel Boring Machine).

The main motive of the visit was to show working of TBM. The construction at the site is carried out by joint venture of MMRC and HCC (Hindustan Construction Company).

### **Tunnel Boring Machine (TBM):**

Two 5.2 metre diameter twin tunnels of 33.5 km each will be dug at a depth of 20–25 metres. Seventeen TBMs each weighing around 1400 tonnes and costing ₹120 crore (US\$17 million), will be used to dig the tunnels. The TBMs will be lowered through shafts or pits using a specialized crane. Tunnels will have to be dug through a mix of soil and basalt rock, and is expected to be difficult. TBMs can dig at an average rate of 8 metres per day through rock, and at a rate of 14 metres per day through soil. After TBMs bore through section, the metro tunnel will be lined with pre-cast concrete rings to strengthen the tunnels. Boring and placing rings occurs sequentially.



**Tunnel Boring Machine**

**Precast Concrete Segments:**

Precast RCC segments of thickness 300mm and M50 grade concrete are used for tunnel lining which are bolted on the tunnel surface.

Before bolting the precast segments, a 100mm grout is lined over tunnel lining. Precast segments will be put on the tunnels' diameter to prevent cave ins, after the TBMs bore 1.2 metres.





**Tunnel Boring Machine Shaft**



## Expert Lectures

Lectures delivered by expert and talented speakers can be highly stimulating and beneficial to students pursuing technical courses. They expose students to real-world life experiences from the position of someone who has been there. Students get to see the insight and perspective of the guest speaker's particular field.

### 1) Why Newspaper?



The department of Civil Engineering and Lakshya Team, organised a lecture of Industry experts - **Mr. Milind Ballal, Mr. Rakesh Pandey, Mr. Sandeep Telenge and Mr. Harishchandra Pawar** on the topic '**Why Newspaper**', for our newsletter team in second half of 23<sup>rd</sup> January 2019 in Seminar hall. The timing of this lecture was 2:30 pm - 5:00 pm.

Brief about the programme:

*"The newspaper is the mirror of human society"*

Although there are reports related to all areas through online media, we have found that there is no substitute for newspapers for accurate and reliable news, in a special program based on the 'importance of reading newspapers'. The program was organized in collaboration with Thane City Newspaper Association and A.P. Shah Institute of Technology College. Times of India Group's Suresh Pujari and Rakesh Pandey, LokSatta Manager Sandeep Telenge, Chief Editor of Thane Vaibhav, Milind Ballal, President of Maharashtra State Newspaper Vendor Association Harishchandra Pawar and others were present on the occasion.

The program was organized for the purpose of direct interaction between students-readers and representatives of newspapers, to learn the steps to prepare newspapers, and to create interest in regularly reading newspapers in the students. It takes about half an hour to read any newspaper entirely. However, the average Indian citizen reads the newspapers for less than a minute, the shocking truth is that Milind Ballal presented before the audience. According to online media, you will get information on day-to-day affairs, but reading the newspapers will make you think ideologically. Although the news of newspapers has diminished in the past, even then, keeping the news truthful at the centre, there is no other powerful alternative presently in newspapers, Rakesh Pandey said. The text that is in printed form is more important

than any other medium. So, after studying the article, the information received from reading newspapers can be very useful, said Sandeep Telenge of Loksatta. Times of India's Suresh Pujari said that after reading the various challenges facing the job, the reading of the newspaper can be guided by a dashboard. Newspaper distributors have contributed a lot to the distribution process in the progress of newspapers. Therefore, all the attendees gave salute to newspapers distributors.



**Newspaper Experts expressing their views**



## 2) How To Present Your Research: Scientific Papers & Technical Presentation

A seminar for TE Civil was organized by CESA in coordination with departmental R & D Cell on 5<sup>th</sup> March, 2019 on ‘ How to present your Research : Scientific Papers & Technical Presentations ’ . The speaker was **Prof. Mugdha Agarwadkar**, Assistant Professor, Department of Civil Engineering , A. P. Shah Institute of Technology. Engineers are expected to write technical papers and students at TE level are on the verge of doing projects & developing research ideas. The Seminar was arranged so that the students would get acquainted with the Presentation skills and would start preparing for their BE project at the earliest. Also they would present their research/ projects/ internship reports in a technical and well interpretable format.

The Seminar started with a primitive discussion on the topic ‘What is Research?’. Madam answered this question through interaction with students. She discussed the methodology of doing a research/project and compiling the findings in a format. She illustrated the need of proper presentation of the technical work, which infact plays vital role in success of the project. She exercised a word of caution over ‘Plagiarism’ and , explaining the importance of intellectual property, guided the students over doing original work.

Madam explained the ways of presentation namely Reports, Essay, Review, Criticism, Review Paper, Poster presentation, etc. and highlighted the differences between each of them. She gave instructions on contents of a report viz Record, Interpretation, Evaluation, Discussion, Conclusion & Recommendation. She highlighted importance of an appropriate title interpretable by all but without compromise with technical details. Various contents of a report like Abstract, Introduction, Methodology, Results & Conclusion were discussed. Appropriate style of Referencing was mentioned. She gave suggestions design of Presentation slides and mentioned certain Dos & Don’ts regarding the same.

The seminar ended with Question-answer session and the Vote of Thanks.



**TE Semester VI Students**

### 3) Water Storage in Rural And Urban Areas with Case Studies

A seminar for SE and TE Civil was organized by civil department and CESA on 15<sup>th</sup> March, 2019 on ‘ Water Storage In Rural And Urban Areas With Case Studies -2019 ’ . The speaker was **Mr. Ulhas Mukund Paranjpe**, trustee of Jalvardhini Pratisthan, President of ferrocement society, India . Civil Engineers are expected to know different methods of water storage using less economy and creating maximum output. The Seminar was arranged so that the students would understand the importance of storage of water and the ways in which it can be achieved. The seminar started with introducing everyone with the problems due to lack of water. The necessity to store water and examples of different initiatives of different ways of water storage was explained with the help of pictures. Different types of filters were described along with ferrocement technique for construction of tanks. Examples of different types of meshes were also shown. Detailed explanation on the process of ferrocement technique was given with the help of a video. Advantages and disadvantages of this technique were also stated.



**Mr. Paranjpe delivering the Lecture**



**Prof. U. W. Mate felicitating Mr. Paranjpe**



**SE and TE Students**



#### 4) Modern Formwork

A seminar for SE Civil was organized by CESA in coordination with departmental R & D Cell on 5<sup>th</sup> April, 2019 on 'Modern Formwork'. The speaker was **Mr. Rahul Zanzari**. The Seminar was arranged so that the students would be aware of the recent Technology used on the site to learn and know about it.

The Seminar started with a primitive discussion on the topic 'What is Formwork?'. Sir answered this question through interaction with students. He discussed the methodology of using the Formwork on the site. He illustrated the need of proper site knowledge about the slip Formwork of the technical work, which in fact plays a vital role in the future of Civil Engineering.

Sir explained the Difference between Paschal Modular system and Conventional system. He also gave us the General knowledge about the Birch wood which is hard wood used for Formwork and for that after 60 years the tree is cut for the wood. The technology used in slip Formwork is partial plan pro. He also came towards the word 'GEO TAG' which helps to know the age of the tree using (RFID) Radial Frequency Identifier. He gave suggestions design of Presentation slides and mentioned certain Dos & Don'ts regarding the Slip Formwork Technology.

#### 5) International Womens' Day – Career in Green

A seminar for TE Civil was organised by CESA in coordination with Womens Development Cell on 8<sup>th</sup> March, 2019 to celebrate International Womens Day. The speaker was **Ms. Mamta Rawat**. She is a partner with Conserve Consultant Pvt. Ltd. and LEAD Associated Professional from The United States Green Building Council – accredited professional from Indian Green Building Council (IGBC) & Bureau of Energy Efficiency certified Energy Manager.

Women are expected to excel in all fields of life be it social educational, industrial affairs. The event was organised in order to emphasize on women empowerment and to motivate them to be courageous in various aspects of life. The seminar started with a primitive discussion on the topic 'Career in Green'. Madam answered this question through interaction with students. She discussed skills required to become a successful entrepreneur. She emphasized on developing communication skills. Ideas regarding use of eco-friendly materials were discussed. She highlighted the importance of achieving the target by setting to 130% rather than 100% in every aspect to improvise in life. She encouraged all the students so as to enlighten the innovative ideas among them. The seminar ended with guidelines regarding the expectations of the companies during recruitment and how they evaluate the candidate during the interaction.



**Ms. Mamta Rawat**



**Faculties and Students attending the Seminar**

## Faculty Development Programme (FDP)



**Faculties using Total Station**

The department of the Civil Engineering organised two days Faculty Development Programme (FDP) on “Modern Surveying Instruments”. The FDP was organised for the faculty members of colleges affiliated to the University of Mumbai. The programme was organised with the objective that all the faculty members shall be well acquainted with modern survey equipments and specially to have hands on practice on total station and GPS.

The FDP was organised on 10th and 11th January 2019. It was organised under the banner of Industry Institute Interaction (III) Cell of the institute. There were 22 faculty members who attended the FDP from the various institutes affiliated to the University of Mumbai. The training was imparted by Mr. Anthony Savariraj, Mr. C. Faria and Mr. Diwakar Sade of M/s. Lawrence & Mayo, Mumbai.

During the two days of FDP faculties were ready to take measurement of Horizontal angles , Vertical angles, Bearings and distances. Also, the faculty members learned the Traverse survey, Stake -out and measurement of area, Height of buildings and to demarcate the parallel lines with reference to the given line. After learning the applications of total station on field, the participants also learnt to transfer the data to the computer for preparing the topographical map.

The venue for the FDP was college premises.

Certificates were distributed to the participants in the valedictory function held on 11th January 2019. Dr. Sameer Nanivadekar, Dean Administration, was the chief guest of the function. The vote of thanks was proposed by Prof. P.S Jagtap.

The convener of the FDP was Prof. U. W. Mate The co-convener were Prof. P.S. Jagtap and Prof. Vivek Pagey, Prof. Priyanka Jadhav, Mr. Aditya Shastri and Ms. Shruti Godbole helped for making the program successful



**Certificate Distribution**



**Classroom Demonstration**



**Faculties using Total Station**

# Project Based Learning

An exclusive training on REVIT Software under PBL for SE students was conducted from 31<sup>st</sup> December 2018 to 05<sup>th</sup> Jan 2019. Mr. Anjaneya Puli, ACAD Centre, Mumbai was invited as resource person from industry. SE Civil Engineering students were present for the Training. The expert covered all the Major Commands, small building project with all architectural aspects and assigned different projects for various groups of students.

## Hands on Laboratory Practice

Mr. Umesh Vazurkar coordinated the training program under the guidance of Academic dean Prof A. M. Deshpande, Administrative Dean Dr. Sameer Nanivadekar and Principal Dr. Uttam Kolekar.



**SE Semester IV Students**

An exclusive training on REVIT Software under PBL for SE students was conducted from 31<sup>st</sup> December 2018 to 05<sup>th</sup> Jan 2019. Mr. Anjaneya Puli, ACAD Centre, Mumbai was invited as resource person from industry. SE Civil Engineering students were present for the Training. The expert covered all the Major Commands, small building project with all architectural aspects and assigned different projects for various groups of students. Mr. Umesh Vazurkar coordinated the training program under the guidance of Academic dean Prof A. M. Deshpande, Administrative Dean Dr. Sameer Nanivadekar and Principal Dr. Uttam Kolekar.



**Demonstration in Laboratory**

# International Conference on Advances in Civil Engineering (ICACE-19)

Department of Civil Engineering, in association with CESA organized the international conference on 4<sup>th</sup> - 5<sup>th</sup> January 2019. The event was attended by more than 80 students from SE, TE and BE of Civil Engineering Department.

**Patrons**

Chief Patron  
**Shri. Chirag A. Shah**  
Patrons  
**Mrs. Pooja C. Shah**  
**Dr. Uttam D. Kolekar**  
**Prof. Atul M. Deshpande**  
**Dr. Sameer S. Nanivadekar**

**Advisory Board**

**Dr. S. K. Ukarande**  
Dean of Technology, University of Mumbai  
**Dr. B. K. Lande**  
Professor NMIMS  
**Dr. R. V. Kshirsagar**  
Dean & Chairman, RTM University, Nagpur  
**Dr. G. T. Thampi**  
Principal TSEC, Mumbai  
**Dr. J. R. Bhatnagar**  
Professor Manav Rachna University  
**Mr. Sandip Khuperkar**  
Director Ashnik  
**Dr. S.K. Shinde**  
Vice Principal, LTCOE, Koparkhairane

**Technical Programme Committee**

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CEO, Lars Enviro Pvt. Ltd  
**Dr. C. J. Rao**  
Executive Engineer, MHADA  
**Dr. V. B. Ashtankar**  
Vigilance Engineer, MCGM  
**Mr. Brij Kishore Kushwaha**  
Deputy Chief Project Manager, Mumbai Railway  
Vikas Corporation Ltd.  
**Dr. Sameer Sawarkar**  
Associate Professor and HOD, P.C. College of Engg.

**Organising Committee**

Conference Chair – **Prof. Upendra W. Mate**  
Convener – **Prof. Mugdha Y. Agarwadkar**

Technical Team

- **Dr. Madhuri Mulay**
- **Prof. Pooja S. Rao**
- **Prof. Pravin S. Jagtap**
- **Prof. Raksha S. Khandare**
- **Prof. Mrunal P. Joshi**
- **Prof. Vivek V. Pagey**

Co-ordinators:

- **Prof. Vishal U. Misal**
- **Prof. Umesh Y. Vazurkar**
- **Prof. Pallavi A. Patil**
- **Prof. Priyanka A. Jadhav**
- **Prof. Komal B. Gujarati**
- **Prof. Nithya K.**
- **Prof. Preeti S. Kalburgi**
- **Prof. Vrushali K. Suryavanshi**
- **Ms. Shruti B. Godbole**
- **Mr. Aditya Shastri**

**REGISTRATION FEES**

	ISTE MEMBER	NON ISTE MEMBER
<b>STUDENT</b>	₹ 1,000/-	₹ 1,200/-
<b>FACULTY</b>	₹ 1,500/-	₹ 2,200/-
<b>INDUSTRY</b>	-----	₹ 4,500/-
<b>FOREIGN DELEGATE</b>	-----	\$ 99/-

**CONTACT PERSONS**

**Prof. Vishal U. Misal** - +91 8082 387 212  
**Prof. Umesh Y. Vazurkar** - +91 9860 985 099

**Submission Guidelines**

- ✦ Please SEND the full paper by email, on the email-id: [icace@icasteconference.com](mailto:icace@icasteconference.com)
- ✦ The anti-plagiarism policy is applicable to all submissions. Only the author(s) is responsible for any plagiarized submission. The similarity index for a submitted paper should be below 10%. It is responsibility of the organizers to ensure plagiarism free research and therefore we will submit plagiarism checked papers to review
- ✦ The authors are requested to strictly follow and adhere to the prescribed template and page restrictions.
- ✦ Papers submitted to ICACE 2019 should be written in the English language and can be a minimum of FOUR pages long and a maximum of SIX pages long (papers that are less than 4 pages long or more than 6 pages long will not be considered for review). This limit is inclusive of all text, figures, tables, acknowledgements, references, and appendices.
- ✦ Full paper needs to be submitted for presentation at the conference as an oral or poster presentation. Oral/ poster presentation will not be allowed without submission of full paper.
- ✦ Each paper will be peer-reviewed by experts in the field for originality, contribution and soundness.
- ✦ Multiple submission of the same paper should be avoided. Papers must not be submitted to more than one conference or journal at the same time.



**International Conference on Advances in Science, Technology & Engineering (ICASTE-2019)**  
*The Prism of Conferences*  
presents

**International Conference on Advances in Civil Engineering (ICACE)**



**Organised by**  
**Department of Civil Engineering**



**A. P. SHAH INSTITUTE OF TECHNOLOGY**  
Approved by AICTE, New Delhi & Govt. of Maharashtra, Affiliated to University of Mumbai  
(Religious Jais Misoroti)  
Survey No. 12,13, Opp. Hypercity Mall, Kasarvadavali,  
Ghodbunder Road, Thane (W) 400615, Maharashtra, INDIA  
Tel.: 022 2597 3737 / 38

## Aim of ICACE 2019:

The aim of ICACE is to bring together academicians, industry personnel and researchers working in the field of Civil Engineering. This conference is a great opportunity for all Civil Engineers to share ideas, innovations, challenges and shed light on the recent advances in this vast field.

The ICASTE conference was conducted under the aegis of ICASTE-19 A.P. Shah institute of technology, Thane (Mumbai, Maharashtra) with pride presented international conference on “Advances in science, Technology and engineering” (ICASTE-19), The prism of conferences in the college campus on 4<sup>th</sup> & 5<sup>th</sup> January 2019. The broader objective of ICASTE-2019 was to provide a forum for students, faculty, industry and researchers to share their ideas, stimulate creativity, facilitate inter-disciplinary development, motivate and inspire emerging talents. The

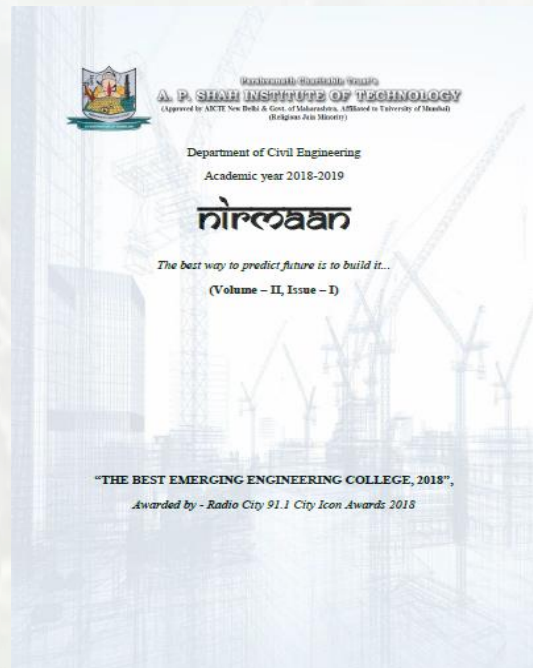
purpose of the conference was to bring together researchers from around the world who were interested in exploring new trends in the field of technology.

Themes:

Areas of interest included (but are not confined to) :-

- Smart city and town planning
- Advanced surveying and geospatial techniques
- Structural analysis and engineering
- Geotechnical engineering
- Construction management
- Remote sensing and GIS
- Transportation engineering
- Advanced concrete technology
- Water and environmental engineering
- Sustainability and green structure

Official Launch of Civil Engineering Department Newsletter



**Dignitaries:** Chief guest and guest of honor of ICASTe-19, Hon. Chairman Mr. Chirag Shah, Hon. Trustee Mrs. Pooja Shah, Principal Dr. Uttam Kolekar, Dean (Acads) Prof. Atul Deshpande, Dean (Admin) Dr. Sameer Nanivadekar and HoD (Civil) Prof. Upendra Mate

Organized by: Department of Civil Engineering, in association with CESA (Civil Engg. Students Association)

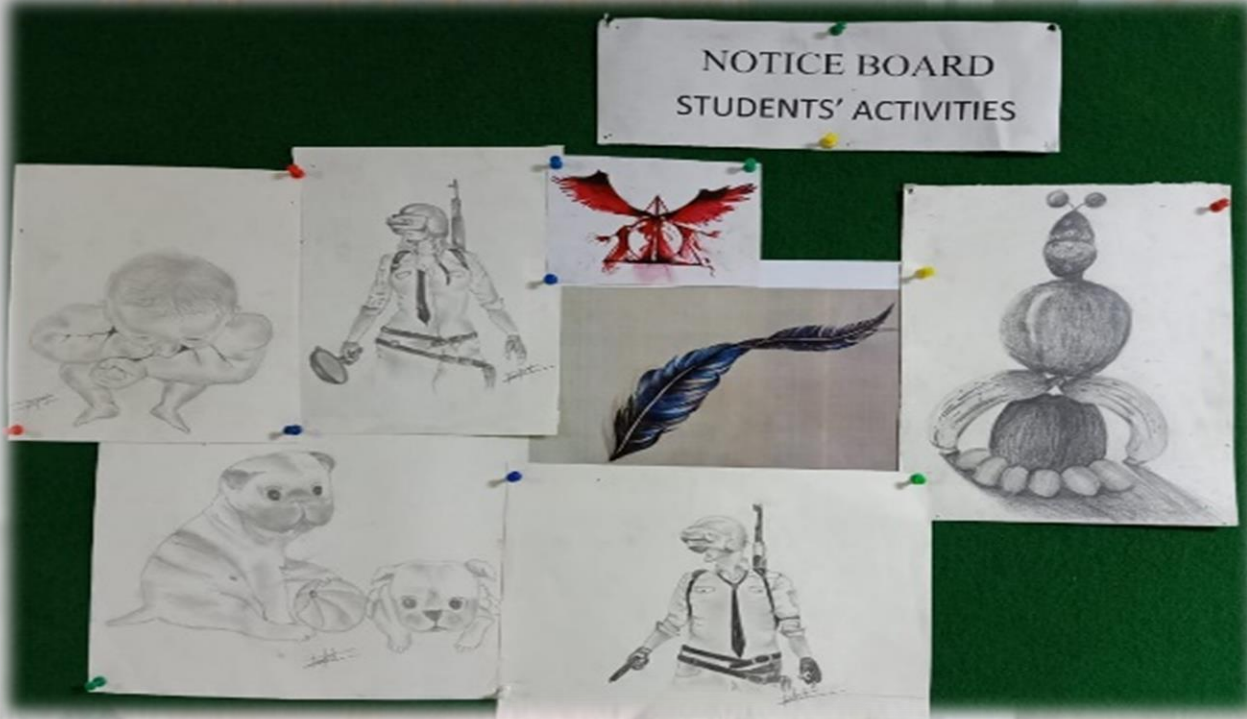
The dignitaries launched the newsletter for year 2018-19 – first half. Newsletter showcased all achievements, events, creativity and various activities undertaken by the Civil department.

# Students' Notice Board



The art is created by:-

- 1) Ms. Pradnya Gage (SE)
- 2) Ms. Janhavi Ghare (SE)



The art is created by:-

- 1) Ms. Roshni Tiwari (SE)
- 2) Mr. Pankit Rana (SE)



# Recent Advances in Civil Engineering

## Government to speed up hydro-electric power projects in J&K following UT status



A day after the BJP led NDA government announced its move of scraping away Article 370 of the Constitution, the nation seeks to witness an increase in infrastructure in the newly formed Union Territory (UT) of Jammu and Kashmir.

India will reportedly use this opportunity to accelerate its hydropower projects in the valley with the aim of setting up suitable avenues of economic growth and development, to credit its decision.

As reported, an integral aspect of the Union Government's effort to sustain its infrastructure schemes and maintain relations with J&K, has been the role of state-run NHPC that has continued to supply electricity to the area despite being owed dues of approximately Rs 15.12 billion. The company, which is the largest central utility for hydro power development in India, is responsible for investing over Rs 200 million with a quarter of that being paid to the state as payment of water usage charges.

According to recorded data, the government led enterprise, in 2018 provided free power to the state amounting to Rs 43.92 billion. This is in addition to 789 MW of power already being supplied. The move is therefore seen as a step towards the settlement of all dues owed to NHPC- which will in turn increase efficiency and will add to the steady working of all upcoming projects.

In a joint venture with Chenab Valley Power Projects, Jammu and Kashmir State Power Development Corp and PTC India, NHPC has undertaken the Pakal Dul (1,000 MW), Kiru (624 MW) and Kwar (540 MW) hydropower projects in the state.

## HCC completes first tunnel for Mumbai Metro-III project

The 3.82-km-long tunnel passing through most thickly populated areas of metro network was a challenging task.

In a significant milestone for the city's metro network, Hindustan Construction Company (HCC) has completed the south bound tunnel between CST and Mumbai Central stations on August 02, 2019. With this, HCC became the first contractor among all packages to complete the entire length of a tunnel.

With an average drilling rate of around 8.2 m per day the 3.82-km-long tunnel from CST to Mumbai Central via the station boxes at Kalbadevi, Girgaon and Grant Road, was completed surmounting various challenges.

MMRCL had awarded the contract to HCC in July 2016, for the design and construction of twin tunnels by tunnel boring machine (TBM) method and construction of four underground metro stations at CST, Kalbadevi, Girgaon and Grant Road.

HCC procured two TBMs from China with 117-m-long single shield dual-mode hard rock with a 6.68 m diameter and weighing around 848 MT. It is equipped to operate in both, open or closed mode, in the predominantly fresh and slightly-to-moderately-weathered basalt and breccia that was anticipated in the Mumbai Metro project.

After months of geotechnical investigations, planning and a lengthy procurement phase, the HCC team successfully launched Vaitarna I (the first TBM) from the project site at CST on December 04, 2017. The initial drive for Vaitarna I was completed on January 11, 2018, and the main drive started in the second week of February 2018. This TBM requires around 32 people to operate, which includes TBM operators, engineers and labourers.

As the alignment of the tunnel passes through one of Mumbai's most thickly populated residential areas, a thorough geological survey was conducted along the entire stretch of the project. Prior to the tunnelling work, a structural survey was carried out in a 30 m influence zone on either side of the alignment to assess the impact of tunnelling on the buildings. Various monitoring instruments such as inclinometers, magnetic extensometers, piezometers, rod extensometers, precise level markers, bi-reflex targets and crack meters, were installed at regular intervals to check and regulate ground movements to the designated limits during and after the tunnelling work.

The construction of station buildings is currently underway. While all the station buildings are unique in design, the CST station is completely a cut and cover station, the remaining three stations would be made by NATM method. Vaitarna II was launched in February 2018 and is expected to complete its tunnelling by December 2019.



## **Program Educational Objectives:**

**PEO 1 Preparation:** To prepare students for successful careers in industry, research and institutions of higher learning with social sense and responsibility.

**PEO 2 Core Competence:** The graduating professionals from Civil Engineering will have a wide spread background of sciences, mathematics and fundamentals of Civil Engineering to solve ever-changing universal industrial problems.

**PEO 3 Breadth:** To create environment for students to aspire them to make competitive and innovative solutions to Civil Engineering problems

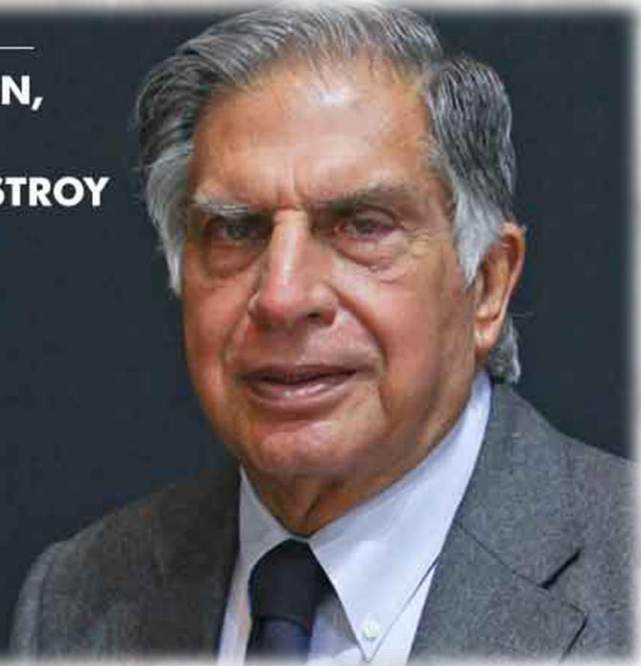
**PEO 4 Professionalism:** To enrich students with leadership qualities, professional ethics and entrepreneurial skills through various devised programs.

**PEO 5 Life Long Learning:** To promote students' awareness and commitment to lifelong learning for professional engagement to benefit society at large.



**Department of Civil Engineering.**

**"NONE CAN DESTROY IRON,  
BUT ITS OWN RUST CAN!  
LIKewise, NONE CAN DESTROY  
A PERSON, BUT HIS OWN  
MINDSET CAN."**



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